

## ABSTRACT

A fuel cell system (660) includes a fuel cell main body (100) which has a solid polymer electrolytic membrane (114), a fuel electrode (102) and an oxidant electrode (108) attached to the solid electrolyte membrane (114); a fuel storage unit (664) which stores liquid fuel (124); a polymer membrane (665) having a proton conductivity and provided in the fuel storage unit (664); a concentration detection unit (a first electrode terminal (666) and a second electrode terminal (667)) which detects the alcohol concentration of the liquid fuel (124) in the fuel storage unit (664) based on the alteration of the proton conductivity of said polymer membrane (665); and a concentration measurement unit (670).